

Main Ideas, Key Points, Questions:

After watching the video segment, write down key points, main ideas, and big questions.

Objective(s):

- *Understand how polarization filters affect the electrical field of light waves.*
- *Calculate the intensity of polarized light that leaves a filter based on the intensity of light that enters and the orientation of the filter to the light wave.*

Notes:

During the video segment, use words, phrases, or drawings to take notes.

Summary:

After watching the video segment, write at least three sentences explaining what you learned. You may ask yourself: "If I was going to explain this to someone else, what would I say?"

Answer the following.

1. Which field of light is the focus of polarization?

2. Relative to the direction of the motion of the light wave, how are the electric field vectors oriented?

3. Describe what it means for light to be unpolarized.

4. When light is polarized, the electric field points in _____ direction.

5. When a filter points upward, what kind of polarized light passes through?

6. If a vertically oriented filter is overlapped with a horizontally oriented filter, how much light will pass through the filters?

7. Complete the equation for Malus's Law: $I_{outgoing} =$ _____

8. By what factor does a polarization filter reduce the intensity of unpolarized light?

9. How much does a filter angled at 45° to already polarized light reduce the intensity of the light?
